



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,695	01/06/2005	Takuo Sugioka	21581-00334-US1	6888
30678 7590 11/12/2008 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20006				
EXAMINER ANTHONY, JOSEPH DAVID				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
11/12/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/516,695

**Applicant(s)**

SUGIOKA ET AL.

**Examiner**

Joseph D. Anthony

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/22/08 and 8/1/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-15, 19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-15, 19 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION #2**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 10-15, 19 and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shiobara et al. U.S. Patent Number 5,418,266 or Shiobara et al. U.S. Patent Number 5,166,228.

Shiobara et al. U.S. Patent Number 5,418,266 teach an epoxy resin composition comprising (A) a naphthalene ring-containing epoxy resin, (B) a specific phenolic resin preferably in admixture with a conventional phenolic resin, especially naphthalene ring-containing phenolic resin, and (C) an inorganic filler shows good flow and cures to products having low modulus of elasticity, a low coefficient of expansion, high Tg irrespective of low stresses, and minimized water absorption. Then semiconductor devices encapsulated with the present composition remain highly reliable even after being subject to thermal shocks upon surface mounting, see abstract. Shiobara et al.'s component (B), see column 5, line 32 to column 9, line 14, reads on applicant's claimed polyphenol compound *having a structure with aromatic units each having at least one phenolic hydroxyl group that are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure*. Shiobara et al.'s inorganic filler Component (C), is preferably a silica having a mean grain size of about 3 to 15  $\mu\text{m}$ , see column 9, lines 15-33. Applicant's claims are deemed to be anticipated over said disclosure of Shiobara et al.'s as well as over the Examples of Shiobara et al..

Shiobara et al. U.S. Patent Number 5,166,228 teach an epoxy resin composition comprising (A) a specific epoxy resin, (B) a phenolic resin having at least one naphthalene ring in a molecule, and (C) an inorganic filler has improved flow and cures into products having a low coefficient of expansion, high Tg, and low moisture absorption. The composition is suitable for encapsulating semiconductor devices, see abstract. Shiobara et al.'s component (B), see column 4, line 39 to column 5, line 65, read on applicant's claimed polyphenol compound *having a structure with aromatic units each having at least one phenolic hydroxyl group that are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure*. Shiobara et al.'s inorganic filler Component (C), is preferably a microfine silica, see column 5, line 66 to column 6, line 11. Applicant's claims are deemed to be anticipated over said disclosure of Shiobara et al.'s as well as over the Examples of Shiobara et al..

In the alternative, Shiobara et al. U.S. Patent Number 5,418,266 and Shiobara et al. U.S. Patent Number 5,166,228 could both be said to "differ" from applicant's claimed invention in that they do not seem to disclose applicant's limitation of *wherein the inorganic microfine particle is a product of hydrolysis and condensation of an alkoxide compound and/or a carboxylic acid salt compound*. Applicant's invention is nevertheless deemed to be obvious individually over Shiobara et al. U.S. Patent Number 5,418,266 and Shiobara et al. U.S. Patent Number 5,166,228, since applicant's said limitation is given little weight because the rejected claims are drawn to a composition of matter and not to a process of making the composition.

Claims 1, 3-15, 19 and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Haraguchi et al. U.S. Patent Number 5,834,551 in view of either Shiobara et al. U.S. Patent Number 5,418,266 or Shiobara et al. U.S. Patent Number 5,166,228.

Haraguchi et al. teach a composite of a thermosetting resin with a metallic oxide, prepared by a process which comprises subjecting a metal alkoxide containing a silicon alkoxide and/or a low condensate thereof to hydrolysis and polycondensation in a solution of a phenolic resin and/or thermosetting resin containing a phenolic resin while effecting the removal of the solvents and/or curing reaction of the resins to incorporate a particulate metallic oxide having an average particle diameter of from 0.01 to 5 .mu.m homogeneously in said thermosetting resin with a good interfacial wettability without causing macroscopic phase separation. Thus, the present invention can provide a cured or uncured composite of a thermosetting resin with a metallic oxide which can be used as a molding material, sliding material, friction material, coating material, film-forming material, etc, see abstract. The said composites can be added to epoxy resins to be cured into a final product, see Example 18.

Haraguchi et al. can be said to differ from applicant's claimed invention in that there is not a direct disclosure to the use of polyphenol resins that meet applicant's claimed limitation of wherein the polyphenol has *such a structure that aromatic units each having at least one phenolic hydroxyl group are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure.*

The secondary references to Shiobara et al. U.S. Patent Number 5,418,266 or Shiobara et al. U.S. Patent Number 5,166,228 have been described above.

It would have been obvious to one having ordinary skill in the art, to use the disclosure of either Shiobara et al. U.S. Patent Number 5,418,266 or Shiobara et al. U.S. Patent Number 5,166,228, for their teaching of phenol resins as strong motivation to actually use a polyphenol resin that meets applicant's claimed limitation of a polyphenol that has *such a structure that aromatic units each having at least one phenolic hydroxyl group are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure*, in the composition taught by Haraguchi et al..

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3-15, 19 and 21 have been considered but are moot in view of the new ground(s) of rejection. In regards to applicant's Declaration filed Under Rule 1.132 on 7/22/08, the Examiner has the following comments. The Examiner can not determine the propriety of said Declaration for applicant's alleged showing of unexpected and superior results, because the Declaration wholly fails to specifically disclose the chemical structure of the polyphenol resin used and/or made (e.g. Polyphenol Z). The Examiner has no idea if said polyphenol reads on applicant's claimed limitation of wherein the polyphenol has *such a structure that aromatic units each having at least one phenolic hydroxyl group are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure*. Likewise, the Examples given in applicant's specification, as originally filed, can not be adequately evaluated for an alleged showing of unexpected

Art Unit: 1796

and superior results, because it is unclear if said Examples read on applicant's claimed limitation of wherein the polyphenol has *such a structure that aromatic units each having at least one phenolic hydroxyl group are connected to one another through an organic unit containing two or more carbon atoms that has a cyclic structure*, since no chemical structure is set forth for the polyphenol resins.

Applicant's Terminal Disclaimers have been accepted by the Patent Office.

***Examiner Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.

/Joseph D. Anthony/  
Primary Examiner, Art Unit 1796  
11/6/08